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PATENT APPLICATION

ATTORNEY DOCKET NO. 10017812-1

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Debendra Das Sharma

Confirmation No.:

Application No.: 10/011,857

Examiner: Khanh Dang

Filing Date: 11/05/2001

Group Art Unit: 2111

Title: Method and system for controlling flow of ordered, pipelined transactions between intercommunicating electronic devices

Mail Stop Appeal Brief-Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on **Nov. 21, 2005**   .

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) $500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

( ) (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d) for the total number of months checked below:

( )	one month	$120.00
( )	two months	$450.00
( )	three months	$1020.00
( )	four months	$1590.00

( ) The extension fee has already been filled in this application.

(X) (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account **08-2025** the sum of ___**$500.00**___. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

(X) I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450. Date of Deposit:___Jan. 23, 2006___
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Number of pages:

Typed Name: Joanne Bourguignon

Signature:

Rev 12/04 (Aplbrief)

Respectfully submitted,

Debendra Das Sharma

By _____

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Reg. No.   **39,906**

Date: **Jan. 23, 2006**

Telephone No.: **206.621.1933**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Applicant:	Debendra Das Sharma
Application No.:	10/011,857
Filed:	November 5, 2001
Title:	Method and System for Controlling Flow of Ordered, Pipelined
	Transactions between Intercommunicating Electronic Devices

Examiner: Khanh Dang

Art Unit: 2111

Docket No.: 10017812-1

Date: January 23, 2006

APPEAL BRIEF

Mail Stop: Appeal Briefs – Patents
Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is from the decision of the Examiner, in an Office Action mailed July 21, 2005, finally rejecting claims 1-20.

REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

RELATED APPEALS AND INTERFERENCES

Applicant's representative has not identified, and does not know of, any other appeals of interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-20 are pending in the application. Claims 1-20 were finally rejected in the Office Action dated July 21, 2005. Applicant's appeal the final rejection of claims 1-20, which are copied in the attached CLAIMS APPENDIX.

STATUS OF AMENDMENTS

No Amendment After Final is enclosed with this brief. The last Amendment was filed August 4, 2004. Applicant's amendments in an Amendment After Final filed on September 21, 2005, were not considered and were not entered into the record by the Examiner.

SUMMARY OF CLAIMED SUBJECT MATTER

Overview

One embodiment of the present invention is directed to a method and system for guaranteeing in-order delivery of transaction requests (1010-1018 in Figure 10A) from a producing node, such as a bus bridge (106-107 in Figure 1) or other processing entity or other computer-system component, and a consuming node, such as a bus bridge (108 in Figure 1) or other processing entity or other computer-system component. In the producing node, outstanding transaction requests are maintained within a source input queue (1002 in Figure 10A), each transaction request associated with a retry bit. When a message is transmitted from the producing node to the consuming node, a special marker bit (1040 in Figure 10E) may be included to flag certain messages as special to the consuming node. The consuming node maintains a retry vector (1006 in Figure 10A) having a retry bit corresponding to each producing node. When the producing node receives a NAK reply (1036 in Figure 10C) from the consuming node rejecting a transaction request, the producing node sets the retry bit for the transaction request in the source input queue, as well as the retry bits for other pending,

subsequently received transaction requests directed to the consuming node. The producing node then proceeds to retransmit the transaction request and any additional pending, subsequently received transaction requests to the consuming node. When the producing node transmits the oldest transaction request (1038 in Figure 10E) pending for a particular consuming node, the producing node sets the special marker bit within the transaction request to flag the transaction request to the consuming node. When a consuming node receives a transaction request from the producing node, it first checks the retry vector to determine whether or not the retry vector bit corresponding to the producing node has been set. If so, then the consuming node responds with a NAK reply unless the special marker bit within the transaction request is set. If the special marker bit is set, and if the retransmitted transaction request can now be accommodated by the consuming node, the consuming node resets the bit within the retry vector corresponding to the producing node and replies with an ACK reply to the producing node. This technique guarantees that, once the consuming node rejects a transaction request within an ordered stream of transaction requests, the transaction request will be retransmitted by the producing node within a proper ordering or transaction requests.

Independent Claim 1

Claim 1 claims a method for controlling flow of requests and replies between a first electronic device that stores new and pending requests in an electronic memory and retrieves new and pending requests from the electronic memory for transmission, and a second electronic device that accepts requests transmitted from the first electronic device, transmitting back to the first electronic device an ACK reply, and rejects requests transmitted from the first electronic device, transmitting back to the first electronic device a NAK reply. The method of claim 1 includes steps of: (1) storing by the first electronic device a retry bit associated with each stored request; (2) storing by the second electronic device a retry vector containing bits corresponding to a first set of electronic devices from which the second electronic device receives requests; (3) maintaining a copy in storage, by the first electronic device, of each request until an ACK reply corresponding to the request is received by the second electronic device; (4) employing the retry bits associated with each stored request by the first electronic device to mark requests for retransmission; and (5) employing the retry vector by the second electronic device to mark a second set of electronic devices that need to retransmit one or more rejected requests.

Dependent Claims 2 – 14

Claim 2 is directed to actions taken by the first electronic device upon receiving a NAK reply from the second electronic device. Claim 3 is directed to actions taken by the second electronic device upon receiving a request from the first electronic device: Claim 4 is directed to storing, by the first electronic device, new and pending requests in a source input queue. Claim 5 is directed to a system in which the first electronic device is a source node and the second electronic device is a destination node. Claim 6 is directed to a method practiced in a system in which the first electronic device is a producing node and the second electronic device is a destination node. Claim 7 is directed to a method practiced in a computer system in which the first electronic device is a producing node and the second electronic device is a consuming node. Claim 8 is directed to a method practiced in a computer system in which the first electronic device is a source node and the second electronic device is a consuming node. Claim 9 is directed to a method practiced in a computer system in which the first electronic device is directly connected to the second electronic device by an electronic communications medium. Claim 10 is directed to a method practiced in a computer system in which the first electronic device is indirectly connected to the second electronic device by a first electronic communications medium, a forwarding node, and a second electronic communications medium, the first electronic communications connected to the first electronic device and the forwarding node, and the second electronic communications medium connected to the forwarding node and the second electronic device. Claim 11 is directed to a method practiced in a computer system in which the first electronic device is indirectly connected to the second electronic device by a number of electronic communications media and forwarding nodes. Claim 12 is directed to a method practiced in a computer system in which the first electronic device and second electronic device are bus interconnect components within a computer system. Claim 13 is directed to a method practiced in a system in which each bit of the retry vector corresponds to an electronic device, directly connected to the second electronic device, which can send requests to the second electronic device. Claim 14 is directed to a method practiced in a system in which each bit of the retry vector corresponds to a unique set of electronic devices that originate and forward requests to the second electronic device.

Independent Claim 15

Claim 15 is directed to a system containing two intercommunicating electronic devices comprising: (1) a first electronic device that stores new and pending requests in an electronic memory and retrieves new and pending requests from the electronic memory for transmission; (2) a retry bit associated with each stored request within the first electronic device; (3) a second electronic device that accepts requests transmitted from the first electronic device, transmitting back to the first electronic device an ACK reply, and rejects requests transmitted from the first electronic device, transmitting back to the first electronic device a NAK reply; and (4) a retry vector maintained by the second electronic device containing retry vector bits corresponding to a set of_electronic devices from which the second electronic device receives requests that need to retransmit one or more rejected requests.

Dependent Claims 16 – 20

Claim 16 is directed to a system that, when a request corresponding to a NAK reply is the oldest pending request directed to the second electronic device, sets the retry bits associated with all subsequent requests directed to the second electronic device. Claim 17 is directed to a system that, when a request corresponding to the NAK reply is not the oldest pending request directed to the second electronic device, retransmits the request to the second electronic device without a special marker bit. Claim 18 is directed to a system in which control logic within the second electronic device that receives a request from the first electronic device and, when the retry vector bit corresponding to the first electronic device is set and when no special marker bit is set in the request, sends a NAK reply back to the first electronic device. Claim 19 is directed to a system that, when the retry vector bit corresponding to the first electronic device is not set or a special marker bit is set in a received request, the control logic determines if the request can be processed by the second electronic device and when the request can be processed by the second electronic device, resets the retry vector bit corresponding to the first electronic device and sends an ACK reply back to the first electronic device. Claim 20 is directed to a system that, when the request cannot be processed by the second electronic device, sets the retry vector bit corresponding to the first electronic device and sends a NAK reply back to the first electronic device.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1.   Whether claims 1 and 4-15 are anticipated by Uchara et al., U2002/0040414 A1 ("Uchara") under 35 U.S.C. § 102(e).

2.   Whether claims 1-20 are indefinite under 35 USC § 112, second paragraph.

ARGUMENT

Claims 1-20 are currently pending in the application. In an Office Action dated July 21, 2005 ("Final Office Action"), the Examiner rejected claims 1-20 under 35 USC § 112, second paragraph, as being indefinite, rejected claims 1 and 4-15 under 35 U.S.C. § 102(e) as being anticipated by Uchara et al., U2002/0040414 A1 ("Uchara"), and conditionally allowed claims 2, 3, and 16-20. Applicant respectfully traverses the 35 USC § 112, second paragraph rejection of claims 1-20 and the 35 U.S.C. § 102(e) rejections of claims 1 and 4-15.

ISSUE 1

1.   Whether claims 1 and 4-15 are anticipated by Uchara under 35 U.S.C. § 102(e).

In an Office Action dated May 4, 2004, the Examiner rejected claims 1 and 4-15 under 35 U.S.C. § 102(e) as being anticipated by Uchara. In a Response filed August 4, 2004, Applicant's representative submitted a 37 CFR § 1.131 Declaration in which Applicant declared that he had conceived of the claimed invention prior to the July 3, 2001 effective date of the cited reference. In the Final Office Action, dated July 21, 2005, the Examiner stated:

> In response to Applicants' argument, the declaration under 36 CFR 1.131 filed 8/10/2004 is insufficient to overcome the rejection of claims 1, 4-15 over Uchara under 35 USC § 102(e) as set forth in the last Office action because it is not properly executed and fails to establish reduction to practice prior to the date of the reference. ... In the affidavit Applicants state that the invention was reduced to practice. However, a written description does not constitute an actual reduction to practice. Furthermore, only the filing of a US patent application which complies with the disclosure requirement of 35 U.S.C. § 112 constitutes a constructive reduction to

practice. A written description, no matter how complete, which has not been made the subject of a US patent application does not qualify as reduction to practice. In any event, it is Applicants' acknowledgement that the invention is not built or tested ...

The Examiner did not indicate why the previously submitted Rule 131 Declaration is not properly executed. It is complete, and is signed and dated by Applicant. In the Rule 131 Declaration, Applicant did not state that the invention was reduced to practice, but instead stated that he conceived the invention prior to the date of the cited reference, and that, following conception, he diligently pursued a constructive reduction to practice. The Examiner's statement seems to indicate a misunderstanding of Rule 131 Declaration practice, and the statues on which the practice is based. Filing of the Current Application constitutes a constructive reduction to practice. As stated in 37 C.F.R. § 1.131(b):

> The showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective data of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of the application. (emphasis added)

In a Response After Final, filed September 21, 2005, Applicant's representative endeavored to assist the Examiner in properly considering the previously filed Rule 131 Declaration:

> The Examiner's statement seems to indicate a misunderstanding of Rule 131 Affidavit practice, and the statues on which the practice is based. Filing of the Current Application constitutes a constructive reduction to practice. As stated in 35 C.F.R. § 1.131(b):
>
>> The showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective data of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of the application. (emphasis added)
>
> Whether or not the invention was built and tested has no bearing on the establishment of prior invention. Applicant's representative has submitted exhibits, with a new STATEMENT OF FACTS ESTABLISHING DILIGENCE, that, following the invention disclosure dated June 12, 2001, prior to the effective date of the cited reference, Applicant's representative was contacted by the Assignee regarding preparation of the patent application on June 21, 2001, a signed representation agreement was submitted on August 15, 2001, transmittal of a draft of the patent

application to the Inventor occurred on September 28, 2001, and a communication from the Assignee concerning signing of the declaration by the Inventor was forwarded on November 2, 2001, three days prior to filing of the Current Application In short, constructive reduction to practice was diligently pursued by both the Inventor and the Assignee. Applicant's representative requests that the Examiner review 35 C.F.R. § 1.131 and reconsider the enclosed Rule 131 Affidavit, and supporting documents. Uchara is not prior art in view of the Rule 131 Affidavit and supporting documents, and cannot be cited in a 35 § 102(e) rejection of the Current Application.

In the Response After Final, Applicant's representative pointed out to the Examiner that the previously filed Rule 131 Declaration establishes conception of the invention prior to the effective date of the reference coupled with due diligence from the prior said date, and, in addition, submitted a newly executed Rule 131 Declaration intended to correct any deficiencies in the originally submitted Rule 131 Declaration, even though the deficiencies were not pointed out clearly by the Examiner, and Applicant's representative did not understand why the previously submitted Rule 131 Declaration was improperly executed. In an Advisory Action dated October 11, 2005, the Examiner apparently maintained the rejections of claims 1 and 4-15, and did not address Applicant's representative's arguments concerning the original Declaration nor the second Declaration or explain the Examiner's position.

According to 37 C.F.R. § 1.104(2):

The applicant, or in the case of a reexamination proceeding, both the patent owner and the requestor, will be notified of the examiner's action. The reasons for any adverse action or any objection or requirement will be stated in an Office action and such information or references will be given as may be useful in aiding the applicant, or in the case of a reexamination proceeding the patent owner, to judge the propriety of continuing the prosecution.

According to MPEP § 715.07:

[W]hen reviewing a 37 CFR 1.131 affidavit or declaration, the Examiner must consider all of the evidence presented in its entirety, including the affidavits or declarations and all accompanying exhibits, records, and "notes."

In the originally submitted Rule 131 Declaration, Applicant clearly indicates that the Applicant is claiming prior conception and diligence in constructively reducing Applicant's invention to practice by filing the current application. The Examiner's initial response to the Rule 131 Declaration indicates that the Examiner did not carefully read, or did not understand, Applicant's assertion, that the Examiner does not understand 37 C.F.R. § 1.131,

and that, as a consequence, the Examiner did not properly consider and evaluate the originally submitted Rule 131 Declaration and the accompanying exhibits. There is yet no evidence in the record that the Examiner has properly considered all of the evidence presented in its entirety, as required under MPEP § 715.07. The Examiner's failure to explain the continued rejection of the originally submitted Rule 131 Declaration, and failure to explain why the originally submitted Rule 131 Declaration was improperly executed, would also seem to directly contradict the requirements 37 C.F.R. § 1.104(2). Applicant's representative believes that Applicant should have received a substantive and correctly considered response to the Rule 131 Declaration prior to a final rejection, and that the Examiner's initial failure to distinctly point out why the originally filed 131 Declaration was improperly executed, and failure to respond to Applicant's representative's arguments, constitutes clear error. Applicant has shown good faith and a willingness to consider and respond to the Examiner's position. In Applicant's representative's opinion, efficient and meaningful patent examination requires similar good faith and willingness to consider arguments and evidence on the part of the Examiner.

ISSUE 2

2.   Whether claims 1-20 are indefinite under 35 USC § 112, second paragraph.

In an Office Action dated May 4, 2004, the Examiner rejected claims 1-20 under 35 U.S.C. § 112, second paragraph, as being indefinite. In a Response filed August 4, 2004, Applicant's representative endeavored to amend the claims to address certain of the Examiner's objections, and offered arguments that certain other of the Examiner's 35 U.S.C. § 112, second paragraph, rejections were unfounded. In the Final Office Action, dated July 21, 2005, the Examiner removed certain of the previous 35 U.S.C. § 112, second paragraph, rejections, and reiterated a majority of the rejections. Although Applicant's representative believes that these rejections are unfounded, Applicant's representative endeavored to address them in a Response After Final, filed September 21, 2005. In an Advisory Action dated October 11, 2005, the Examiner refused to consider these amendments, stating that "[t]he amendments are the new issues, since they change the scope of the claims.." Applicant's representative believes this failure to consider the amendments made to respond to the Examiner's restated 35 U.S.C. § 112, second paragraph, rejections is improper. The amendments were made, in good faith, to further prosecution. The amendments were made

to address specific indefiniteness rejections, and did not, in Applicant's representative's opinion, change to the scope of the claims to an extent requiring a new search. It would seem that Applicant has no choice but to accept all 35 U.S.C. § 112, second paragraph, rejections in a first office action, without attempting to argue or explain why they may have been unfounded. Furthermore, since the Examiner did not make specific suggestions for overcoming the 35 U.S.C. § 112, second paragraph, rejections, in the present case, Applicant's representative could only guess once as to the type of amendments that might find favor with the Examiner, and apparently had only a single chance to guess correctly.

Applicant's representative believes the 35 U.S.C. § 112, second paragraph, rejections are unfounded. In the Final Office Action, the Examiner states:

> In claim 1, line 14, the amended terms "first set of electronic devices" and "second set of electronic devices" lack clear antecedent basis. It is unclear whether there are sets of "electronic devices" in addition to the first and second electronic devices, since the preamble only specifies a communication method between a first and second electronic devices.

Applicant's representative does not understand this rejection, and does not understand on what basis the Examiner is making the rejections. The two terms are introduced with the article "a," and not the article "the." They are used only once in claim 1, in neither case on line 14. There is no lack of antecedent basis. There is no requirement known to Applicant's representative that all claim terms must first be introduced in the preamble of a claim. Were this the case, the vast majority of claims would be improper under 35 U.S.C. § 112. Claims are interpreted in light of the specification, and the specification and figures of the current application unambiguously set forth the architecture and connectivity of devices to which claim 1 refers. For example, the retry vector 1006 in Figure 10A has four entries, although only the first entry corresponds to the producer node, transfer of requests from which are discussed in the example of Figures 10A-H. In the Summary of the Invention section of the current application, the retry vector is described: "The consuming node maintains a retry vector having a retry bit corresponding to each producing node." In Figure 1, bus bridge 108 is shown connected with two different producing nodes 106 and 107. Beginning on line 19 of page 12, the specification clearly states: "Finally, the consuming node 506 includes a retry vector 526 with a retry bit, such as retry bit 528, corresponding to each producing node, such as producing node 502, from which the consuming node receives transaction requests via the source input queue 508." Applicant's representative finds nothing unclear or indefinite with

respect to claim 1, or the use of the terms "a first set of electronic devices" and "a second set of electronic devices." For the same reason, the Examiner's rejection of claim 13, which recites "wherein each bit of the retry vector corresponds to an electronic device, directly connected to the second electronic device, that can send requests to the second electronic device," is also unfounded, because it is entirely clear from the specification of the application what is meant by "an electronic device, directly connected to the second electronic device, that can send requests to the second electronic device."

The Examiner further asserts that the word "directly" is unclear in claim 9. Claim 9 recites "wherein the first electronic device is directly connected to the second electronic device by an electronic communications medium." The Examiner seems to feel that two devices cannot be directly connected via an electronic communications medium. The term "direct connection" in computer networking is well known to mean connection of two nodes through a single communications medium, without an intervening router, bridge, or other intervening node. Indeed, beginning on line 17 of page 22 of the current application is the statement: "For example, the producing node and consuming node may be directly interconnected, as an example of Figure 5, or may be indirectly interconnected through additional nodes." Furthermore, claim 9 makes it abundantly clear that the devices are directly connected through a communications medium. In Applicant's representative's respectfully offered opinion, this rejection is completely unfounded. The Examiner's rejection of claim 11 is unfounded for the same reasons. The phrase "indirectly connected ... by a number of electronic communications media and forwarding nodes" is completely clear and unambiguous to anyone conversant with digital communications, and is also made abundantly clear by the specification of the current application.

Finally, the Examiner's rejection of claim 15 is improper. The Examiner asserts that "an essential structural cooperative relationship(s) between the 'first electronic device' and 'the second electronic device' have been omitted," but fails to specify what it is that is missing. Claim 15 claim a system comprising two intercommunicating devices, retry bits, and a retry vector. Exactly by what means the two devices communicate is irrelevant. The specification of the current application is littered with examples of communications media, and producing and consuming nodes connected by such media. They may be directly connected, indirectly connected through intermediate nodes, and potentially interconnected by radio or other wireless connections. Interconnection of electronic devices is well known. Applicant's representative can see no reason why specific details on the connection between
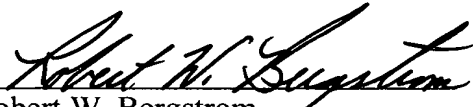
the devices need be mentioned in the claim if, in fact, that is what the Examiner feels to be missing. Communications connections generally require memory buffers, controllers, timing devices, protocols, and a large number of components and features. But all of these details are quite irrelevant to the claimed system. Were every detail needed to be specified in the claims, claims would become as large as or larger than the Detailed Description of the Invention section. The term "set off electronic devices" is, as discussed above, quite proper and readily understood from specification of the current invention.

CONCLUSION

Applicant's representative is disappointed and perplexed by the course of Examination of the current application. Applicant's representative feels that the written prosecution history provides clear evidence that the Examiner does not understand 37 C.F.R. § 1.131, and has not properly considered Applicant's originally filed Rule 131 Declaration. Furthermore, the Examiner has finally rejected the current claims without apparently considering, or responding to, Applicant's representative's arguments regarding the Rule 131 Declaration. Finally, the Examiner has completely failed to provide reasons for deeming the Rule 131 Declaration improperly executed. The Examiner has also failed to provide any suggestion or clarification that would allow Applicant's representative to address deficiencies in the Rule 131 Declaration perceived by the Examiner or to decide whether or not to pursue asserting prior conception and diligent constructive reduction. Applicant's representative believes that the 35 U.S.C. § 112, second paragraph, rejections of claims 1-20 are unfounded, and that the Examiner's failure to attempt to negotiate or resolve the 35 U.S.C. § 112, second paragraph, rejections does not represent the mutual, good faith prosecution practice and interactions on which Applicant's representative has come to rely and expect from the USPTO.

Applicant respectfully submits that all statutory requirements are met and that the present application is allowable over all the references of record. Therefore, Applicant respectfully requests that the present application be passed to issue.

Respectfully submitted,
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CLAIMS APPENDIX

1.   A method for controlling flow of requests and replies between a first electronic device that stores new and pending requests in an electronic memory and retrieves new and pending requests from the electronic memory for transmission, and a second electronic device that accepts requests transmitted from the first electronic device, transmitting back to the first electronic device an ACK reply, and rejects requests transmitted from the first electronic device, transmitting back to the first electronic device a NAK reply, the method comprising:

storing by the first electronic device a retry bit associated with each stored request;

storing by the second electronic device a retry vector containing bits corresponding to a first set of electronic devices from which the second electronic device receives requests;

maintaining a copy in storage, by the first electronic device, of each request until an ACK reply corresponding to the request is received by the second electronic device;

employing the retry bits associated with each stored request by the first electronic device to mark requests for retransmission; and

employing the retry vector by the second electronic device to mark a second set of electronic devices that need to retransmit one or more rejected requests.

2.   The method of claim 1 wherein, when the first electronic device receives a NAK reply from the second electronic device:

when the request corresponding to the NAK reply is the oldest pending request directed to the second electronic device, setting the retry bits of all subsequent requests directed to the second electronic device and retransmitting the oldest pending request to the second electronic device with a special marker bit; and

when the request corresponding to the NAK reply is not the oldest pending request directed to the second electronic device, retransmitting the request to the second electronic device without a special marker bit.

3.   The method of claim 1 wherein, when the second electronic device receives a request from the first electronic device:

when the retry vector bit corresponding to the first electronic device is set and when no special marker bit is set in the request, sending a NAK reply back to the first electronic device; and

when the retry vector bit corresponding to the first electronic device is not set or a special marker bit is set in the request,

determining if the request can be processed by the second electronic device,

when the request can be processed by the second electronic device, resetting the retry vector bit corresponding to the first electronic device and sending an ACK reply back to the first electronic device, and

when the request cannot be processed by the second electronic device, setting the retry vector bit corresponding to the first electronic device and sending a NAK reply back to the first electronic device.

4. The method of claim 1 wherein the first electronic device stores new and pending requests in a source input queue.

5. The method of claim 1 wherein the first electronic device is a source node and the second electronic device is a destination node within a computer system comprising interconnected and intercommunicating electronic devices.

6. The method of claim 1 wherein the first electronic device is a producing node and the second electronic device is a destination node within a computer system comprising interconnected and intercommunicating electronic devices.

7. The method of claim 1 wherein the first electronic device is a producing node and the second electronic device is a consuming node within a computer system comprising interconnected and intercommunicating electronic devices.

8. The method of claim 1 wherein the first electronic device is a source node and the second electronic device is a consuming node within a computer system comprising interconnected and intercommunicating electronic devices.

9. The method of claim 1 wherein the first electronic device is directly connected to the second electronic device by an electronic communications medium.

10.   The method of claim 1 wherein the first electronic device is indirectly connected to the second electronic device by a first electronic communications medium, a forwarding node, and a second electronic communications medium, the first electronic communications connected to the first electronic device and the forwarding node, and the second electronic communications medium connected to the forwarding node and the second electronic device.

11.   The method of claim 1 wherein the first electronic device is indirectly connected to the second electronic device by a number of electronic communications media and forwarding nodes.

12.   The method of claim 1 wherein the first electronic device and second electronic device are bus interconnect components within a computer system.

13.   The method of claim 1 wherein each bit of the retry vector corresponds to an electronic device, directly connected to the second electronic device, that can send requests to the second electronic device.

14.   The method of claim 1 wherein each bit of the retry vector corresponds to a unique set of electronic devices that originate and forward requests to the second electronic device.

15.   A system containing two intercommunicating electronic devices comprising:
        a first electronic device that stores new and pending requests in an electronic memory and retrieves new and pending requests from the electronic memory for transmission;
        a retry bit associated with each stored request within the first electronic device;
        a second electronic device that accepts requests transmitted from the first electronic device, transmitting back to the first electronic device an ACK reply, and rejects requests transmitted from the first electronic device, transmitting back to the first electronic device a NAK reply; and
        a retry vector maintained by the second electronic device containing retry vector bits corresponding to a set of electronic devices from which the second electronic device receives requests that need to retransmit one or more rejected requests.

16.   The system of claim 15 further comprising:

control logic within the first electronic device that, when a request corresponding to a NAK reply is the oldest pending request directed to the second electronic device, sets the retry bits of associated with all subsequent requests directed to the second electronic device and retransmits the oldest pending request to the second electronic device with a special marker bit.

17.   The system of claim 16 wherein, when a request corresponding to the NAK reply is not the oldest pending request directed to the second electronic device, the control logic retransmits the request to the second electronic device without a special marker bit.

18.   The system of claim 15 further comprising:

control logic within the second electronic device that receives a request from the first electronic device and, when the retry vector bit corresponding to the first electronic device is set and when no special marker bit is set in the request, sends a NAK reply back to the first electronic device.

19.   The system of claim 18 wherein, when the retry vector bit corresponding to the first electronic device is not set or a special marker bit is set in a received request, the control logic determines if the request can be processed by the second electronic device and, when the request can be processed by the second electronic device, resets the retry vector bit corresponding to the first electronic device and sends an ACK reply back to the first electronic device.

20.   The system of claim 19 wherein, when the request cannot be processed by the second electronic device, the control logic sets the retry vector bit corresponding to the first electronic device and sends a NAK reply back to the first electronic device.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.